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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/061,564	10/26/2001	Michael S. Foster	030048030US	2784
25096	7590	05/25/2007		
PERKINS COIE LLP PATENT-SEA P.O. BOX 1247 SEATTLE, WA 98111-1247			EXAMINER TSEGAYE, SABA	
			ART UNIT 2616	PAPER NUMBER
			MAIL DATE 05/25/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/061,564	Applicant(s) FOSTER ET AL.	
	Examiner Saba Tsegaye	Art Unit 2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 March 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6-17, 19-29, 31-42 and 44-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-17, 19-29, 31-42 and 44-46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. This Office Action is in response to the amendment filed 03/19/07. Claims 1-4, 6-17, 19-29, 31-42 and 44-46 are pending. Currently no claims are in condition for allowance.

Claim Rejections - 35 USC § 103

2. Claims 1, 2, 7-10, 14, 19-24, 27, 32-36, 39 and 44-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Headrick et al. (US 5,724,358) in view of Carvey (US 2002/0049901 A1).

Regarding claims 1, 10, 23, and 35, Headrick discloses a method in a switch for multicasting data whose delivery is not guaranteed, the method comprising:

receiving data to be multicasted (column 3, lines 60-62; column 4, lines 40-45);
storing the received data in a buffer (column 4, lines 30-45);
identifying destination ports thorough which the received data is to be transmitted (column 6, lines 31-37); and

repeating determining the destination ports that are currently available (column 10, lines 34-50) or transmitting lower-priority data and through with the data has not already been transmitted, preempting transmission of lower-priority data and transmitting the data through the determined destination ports until the data has been transmitted through all the destination ports (column 10, line 59-column 11, line 5).

Headrick does not expressly disclose that the routing device is InfiniBand compatible.

Carvey teaches a multi-application switch router that is InfiniBand compatible (0057).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute a multi-application switch, such as that suggested by Carvey, to the switch of Headrick in order to provide a high-speed switching system.

Regarding claims 2, 14 and 39, Headrick discloses an output queue for each output port. Headrick does not disclose an input port that has its own buffer. Carvey teaches an input port that has its own buffer (see fig. 12). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use dedicated input buffer, such as suggested by Carvey, in the system of Headrick in order to provide deadlock-free network.

Regarding claims 7, 20, 32 and 44, Headrick discloses the method wherein the switch is an interconnect fabric module (see fig. 3).

Regarding claims 8, 21, 33 and 45, Headrick discloses the method wherein the identifying of destination ports includes using a virtual address and a label table that maps virtual address to destination ports (column 5, lines 1-17).

Regarding claims 9, 22, 34 and 46, Headrick discloses the method of claim 1 including when it is determined that a destination port is not available, determining whether an equivalent port is available (column 10, lines 45-53).

Regarding claim 19, Headrick discloses the routing device wherein the routing device is an ATM switch (see figs 3 and 5).

Regarding claims 24 and 36, Headrick discloses the method wherein the transmitting includes determining the destination ports that are currently available and through which the communication has not already been transmitted and transmitting the communication through the determined destination ports (column 10, lines 34-50).

Regarding claim 27, Headrick discloses the method including storing the communication in a buffer (see fig 5, 126).

3. Claims 3, 4, 6, 15-17, 26, 28, 29, 31 and 40-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Headrick et al. in view of Carvey as applied to claim 1 above, and further in view of Nelson et al. (US 6,138,185).

Headrick in view of Carvey discloses all the claim limitations as stated above, except for the communication to be multicasted without acknowledgement; and the communication indicates a Fibre channel class 3 communication.

Nelson teaches methods and structures for high-speed connection set up in a Fibre channel switch. Under the Fibre channel multicast/broadcast specification in that multicast/broadcast channel is of a type where packets may be dropped or discarded if a connection cannot be established (e.g. Class 3 service (column 9, lines 20-25)). As known Fibre

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channel class 3 service is called "unacknowledged service" and is often used for messages that do not need to be acknowledged.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add a system the use Fibre channel service class 3, such as that suggested by Nelson, in the system of Headrick in view of Carvey in order to provide flexible packet switched topology.

4. Claims 11-13, 25, 37 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Headrick in view of Carvey as applied to claims 1, 10, 23 and 35 above, and further in view of Miller et al. (US 6,247,058 B1).

Headrick in view of Carvey discloses all the claim limitations as stated above, for a criterion, which is a time out, and the criterion is the buffer is needed to store another communication.

Miller teaches a network device, such as a switch, router, switching hub, and the like, that time stamps arriving packets to facilitate a variety of functions, such as dropping stale packets, and processing broadcast packets (column 11, lines 6-11).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a clock, such as that suggested by Miller, to the switching system of Headrick in view of Carvey in order to ensure the multicast packets are transmitted without undue delay

Response to Arguments

5. Applicant's arguments with respect to claims 1-4, 6-17, 19-29, 31-42 and 44-46 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Saba Tsegaye whose telephone number is (571) 272-3091. The examiner can normally be reached on Monday-Friday (7:30-5:00), First Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi H. Pham can be reached on (571) 272-3179. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ST

May 17, 2007


CHI PHAM
SUPERVISORY PATENT EXAMINER

SP262